

# Research Funding in Texas Overview



Fiscal Year 2022

## Importance of Research at Higher Education Institutions

Scientific research conducted at higher education institutions is vital for identifying and developing new knowledge that leads to groundbreaking innovations. These innovations drive the state's economy and improve the quality of life for Texans. Strong programs in basic and applied research, and technology transfer, which puts research into action, build on one another. Strong research programs provide state-of-the-art educational opportunities for students and attract high-quality faculty. State and federal governments are two principal sources for research funding.

## Research Expenditures

*Total research expenditures* at Texas higher education institutions amounted to \$6.39 billion for Fiscal Year (FY) 2020, based on the institutions' annual financial reports. The share of funding by source was 45% federal, 20% private, 17% state and local, and 19% internal institutional sources. Total research expenditures increased overall by \$743 million (13.2%) from FY 2019.

*At public universities and health-related institutions*, research expenditures reached \$5.44 billion in FY 2020, an increase of \$681 million (14.3%) from \$4.76 billion in FY 2019. Total research expenditures at *independent universities and health-related institutions* was \$945 million in FY 2020, an increase of \$62 million (7.1%) from \$882 million in FY 2019.

## Texas' Share of National Research

Comparisons of states are based on data collected by the National Science Foundation's Higher Education Research and Development Survey. FY 2019 is the most recent year data are available. Texas ranked sixth in *federal research expenditures* for FY 2019 (Table 1). Texas ranked third among the states in *total research expenditures*, with \$5.98 billion, behind California (\$10.51 billion) and New York (\$7.09 billion).

**Table 1. Total and Federal Research Expenditures, FY 2019**

Total Research Expenditures (in billions)	Federal Research Expenditures (in billions)
California	\$10.51
New York	\$7.09
<b>Texas</b>	<b>\$5.98</b>
Pennsylvania	\$4.66
Maryland	\$4.63
Massachusetts	\$4.32
North Carolina	\$3.39
Michigan	\$2.89
Illinois	\$2.71
Florida	\$2.69
California	\$5.35
New York	\$3.67
Maryland	\$3.60
Pennsylvania	\$2.57
Massachusetts	\$2.30
<b>Texas</b>	<b>\$2.35</b>
North Carolina	\$1.95
Illinois	\$1.61
Georgia	\$1.49
Ohio	\$1.48

*Source: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, R&D Expenditures by Broad Field and Federal Sources, retrieved September 7, 2021*

## Texas Research Programs

Table 2 lists state appropriations for research funds for the 2022-23 biennium, 87th Texas Legislature, 2021.

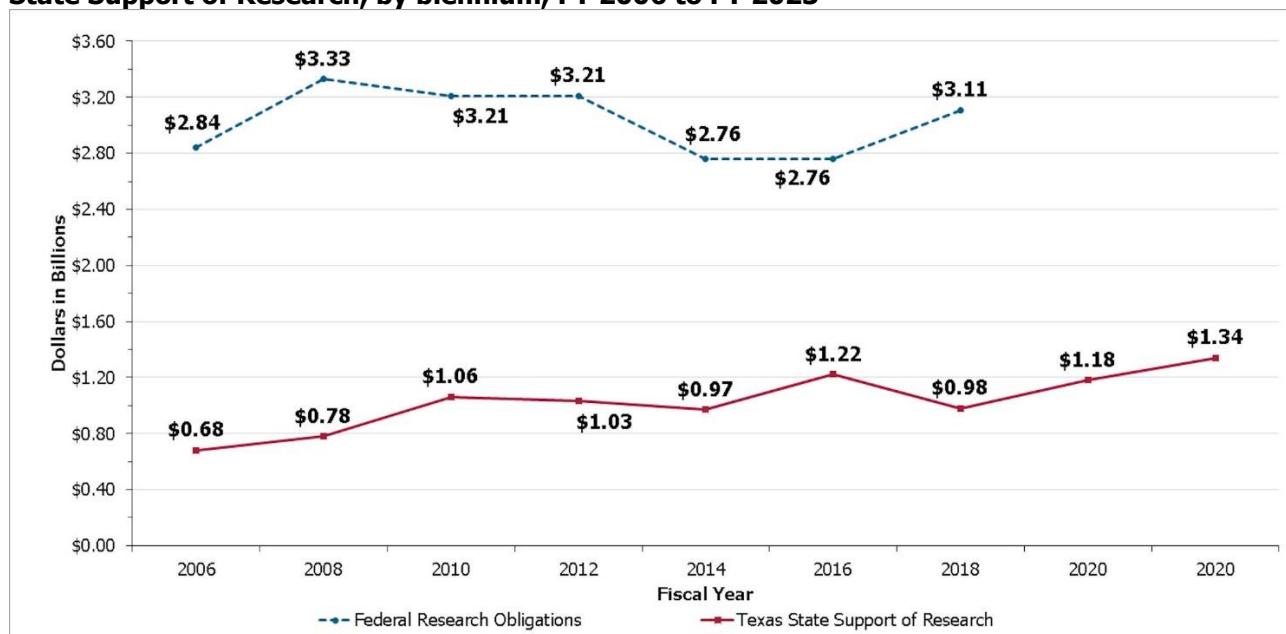
**Table 2. Texas State Research Funding, 87th Texas Legislature, 2021**

Research Funding	Recipients	FY 2022	FY 2023
Texas Research University Fund	Research Universities	\$73,537,896	\$73,537,896
Core Research Support Fund	Emerging Research Universities	\$58,555,705	\$58,555,705
Texas Comprehensive Research Fund	Other Non-Research & Non-Emerging Research Universities	\$7,136,187	\$7,136,187
National Research University Fund	Eligible Emerging Research Universities	\$25,045,556	\$25,045,556
Texas Research Incentive Program	Emerging Research Universities	\$16,625,000	\$16,625,000
Texas A&M University Research Institutions	Service Agencies	\$243,116,490	\$243,116,490
Research Enhancement Fund	Health-Related Institutions	\$48,274,986	\$48,274,986
Performance-Based Research Operation	Health-Related Institutions	\$107,063,187	\$107,063,187
Autism Grant Program	Public and Private Institutions	\$3,705,000	\$3,705,000
Non-Formula Funding	Public Universities and Health-Related Institutions	\$68,345,249	\$68,345,249
Cancer Prevention and Research Institute of Texas	Cancer Research Grants	\$251,353,693	\$251,369,432
Governor's University Research Initiative	Distinguished Faculty Recruitment	\$39,969,000	\$0

Source: Texas General Appropriations Act 2022-23

Figure 1 shows federal obligations to Texas for research and development in science and engineering and Texas state research funding. State support is shown in billions of dollars from the last nine biennia. State funding includes research funds, research grants, non-formula funding, health-related institution research funds, Texas A&M service agency funds, and the Governor's University Research Initiative. *Research funding for the Cancer Prevention and Research Institute of Texas (CPRIT), based on \$2.86 billion in bond proceeds since FY 2010, is not included in Figure 1.*

**Figure 1. Federal Obligations for Science and Engineering Research and Development and Texas State Support of Research, by biennium, FY 2006 to FY 2023**



Sources: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, retrieved September 2021, for federal obligations; the Texas General Appropriations Act 2022-23 for state support

## **Texas Research University Fund (TRUF)**

In 2015, the Texas Legislature created the TRUF to provide funds to the two Texas research universities with total research expenditures greater than \$450 million (Texas Education Code, Section 62, Subchapter C). The TRUF allows institutions to support faculty to ensure excellence in instruction and research. The distribution of funds is based on a three-year average of total research expenditures. The average annual funding, over eight years, is \$31.7 million for The University of Texas at Austin and \$39.1 million for The Texas A&M University.

*Historical note:* TRUF replaced the Texas Competitive Knowledge Fund (TCKF), established in 2007 and in place until 2015. TCKF supported the two research universities and up to six emerging research universities with average total research expenditures over \$50 million.

## **Core Research Support Fund (CRSF)**

The CRSF, created in 2015, provides funds to Texas emerging research universities in Texas (Texas Education Code, Chapter 62, Subchapter F-1). CRSF funding is a set formula allocation for the support and maintenance of educational and general activities that promote increased research capacity, including research and student services. The allocation is based equally on total and restricted research expenditures. The Texas Higher Education Coordinating Board (THECB) *Standards and Accounting Methods* (SAMs) guides the reporting of restricted research expenditures. The THECB convenes the Restricted Research Committee annually for a transparency review of restricted research awards. Additionally, the universities report annually how they use the funds. The CRSF will provide \$58.6 million annually to the eight emerging research universities over the current biennium (FY 2022-23).

## **Texas Comprehensive Research Fund (TCRF)**

The TCRF, created in 2015, provides funds to Texas public institutions that are neither research nor emerging research universities (Texas Education Code, Chapter 62, Subchapter E). TCRF funding is a set formula allocation for the support and maintenance of educational and general activities that promote increased research capacity, including research and student services. The allocation is based on restricted research expenditures. Universities report annually how they use the funds. The TCRF will provide \$7.1 million annually to 24 institutions over the current biennium (FY 2022-23).

*Historical note:* The CRSF and TCRF replaced the Research Development Fund (RDF), established in 2003 and first funded in FY 2006. The RDF replaced the University Research Fund and the Texas Excellence Fund, both established in 2001. Using a formula based on restricted research expenditures, the RDF supported all public universities, except The University of Texas at Austin and The Texas A&M University.

## **National Research University Fund (NRUF)**

The NRUF, created in 2009, provides funds to Texas eligible emerging research universities (Texas Education Code, Chapter 62, Subchapter G). The NRUF is a dedicated funding source (endowment) that provides support to enable emerging research universities to achieve national prominence as major research universities. An institution must meet legislatively specified benchmarks to become eligible for funds. Eligibility is limited to the institutions designated as emerging research universities that have more than \$45 million in restricted research expenditures. Texas Tech University and the University of Houston achieved NRUF eligibility in FY 2012. The University of Texas at Dallas achieved eligibility in FY 2018 and The University of Texas at Arlington qualified in FY 2021. Over the last ten years, the average annual funding per institution was \$8.1 million.

## **Texas Research Incentive Program (TRIP)**

The TRIP, created in 2009, provides matching funds to assist emerging research universities in leveraging private gifts for the enhancement of research productivity and faculty recruitment (Texas Education Code, Chapter 62, Subchapter F). Matching funds are awarded based on private gifts and endowments to enhance research activities. From FY 2010 through FY 2021, the TRIP provided a total of \$361 million in matching funds to institutions.

## **Research Enhancement Fund**

In FY 2022 and FY 2023, health-related institutions receive Research Enhancement Funds of \$1.4 million in base funding plus formula-allocated funds of 0.93% of their research expenditures as reported to the THECB (General Appropriations Act 2021, Article III, Special Provisions Relating Only to State Agencies of Higher Education, Section 27.3, and Article IX, Section 17.47). The Research Enhancement Fund provided annual funding of \$48 million to 13 health-related institutions in FY 2022 and FY 2023.

## **Performance-Based Research Operation**

The Texas A&M University Health Science Center, Texas Tech University Health Sciences Center, The University of Texas Health Science Center Houston, The University of Texas Health Science Center San Antonio, The University of Texas Southwestern Medical Center, and the University of North Texas Health Science Center received this formula-driven annual funding of a combined \$107 million in FY 2021 and FY 2023 to enhance research capacity, assist the institutions in leveraging research grants and gifts, and support expansion of the institution's research operations. The formula for funding includes a base match according to the average annual research expenditures and a tiered performance incentive match according to increased expenditures over the previous biennium.

## **Autism Research Program**

In 2015, the Texas Legislature established funding to provide grant support for autism research centers at public and independent institutions of higher education that provide evidence-based behavioral services and training (General Appropriations Act 2021, Article III, Higher Education Coordinating Board, Strategy G.1.2, Section 44). The grant program awards funding through a competitive process, and the THECB annually reports to the Legislature on the effectiveness of each funded program.

## **Cancer Prevention and Research Institute of Texas (CPRIT)**

In November 2007, and again in 2019, Texas voters passed amendments to the Texas State Constitution creating the CPRIT (Texas Health and Safety Code Chapter 102). The bonds are set at a combined \$6 billion, with a \$300 million funding limit per year. The CPRIT implements the Texas Cancer Plan, aimed at finding a cure for cancer. Grants are distributed to institutions and medical research facilities for cancer research, therapies, protocols, cancer prevention, and control programs. CPRIT grant recipients must have funds in place for the grant subject area of at least one-half of the grant amount. The first grants were awarded in FY 2010, and since then, a total of \$2.86 billion has been spent through 1,679 awards (FY 2021).

## **Governor's University Research Initiative (GURI)**

The GURI, created in 2015, awards matching grants to public universities and health-related institutions to assist in recruiting distinguished researchers, such as Nobel laureates and National Academy members, from institutions outside of Texas (Texas Education Code, Chapter 62, Subchapter H). The purpose is to enhance Texas national and global economic competitiveness. The Texas Economic Development and Tourism Office, within the Office of the Governor, administers the fund.

The Texas A&M University, Texas Tech University, and The University of Texas at Austin, The University of Texas at Arlington, and the University of Houston have received a total of \$62 million, in the first three biennia.

*Historical note:* The 84th Texas Legislature established GURI, which replaced the Texas Emerging Technology Fund.

### **Non-Formula Support (previously known as Special Item Appropriations)**

The Texas Legislature may authorize direct appropriations to Texas public higher education institutions for non-formula support of specific programs or activities, centers, or institutes (General Appropriations Act 2021, Articles III and IX). The University of Texas at Austin's McDonald Observatory and the Energy Research Cluster at the University of Houston are examples of such items. For the FY 2022-23 biennium, appropriations for non-formula support of research activities totaled \$68 million per year at both general academic institutions and health-related institutions. The Texas A&M University research institutes received \$243 million per year for the FY 2022-23 biennium.

### **The Academy of Medicine, Engineering & Science of Texas (TAMEST)**

TAMEST connects Texas top scientists and researchers, promotes cross-industry and cross-disciplinary forums, convenes conferences, sponsors task forces to report on science informing important state and national political issues, and sponsors protégés with funding. TAMEST includes 10 Texas Nobel laureates and about 320 Texas members of the National Academy of Sciences, the National Academy of Engineering, and the National Academy of Medicine. TAMEST, a not-for-profit organization, was co-founded in 2004 by the Honorable Kay Bailey Hutchison and Nobel laureates Michael S. Brown, and Richard E. Smalley.

### **Commercialization**

Commercialization of higher education institutions' research may be measured by the number of patent applications filed and issued. For the 2018 to 2019 biennium, 16 Texas institutions of higher education reported 626 patents issued and 1,358 patents filed. About 72% of patents and patent applications reported were U.S. patents, while the remainder were foreign patents.

### **Texas Higher Education Coordinating Board**

Academic and Health Affairs

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